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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/649,212

08/27/2003

Hironori Kobayashi

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EXAMINER

RAYMOND, BRITTANY L

ART UNIT

PAPER NUMBER

1795

MAIL DATE

DELIVERY MODE

04/17/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/649,212	KOBAYASHI, HIRONORI	
	Examiner	Art Unit	
	BRITTANY RAYMOND	1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 March 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-67 is/are pending in the application.
- 4a) Of the above claim(s) 51-67 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-50 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 May 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>3/6/2008</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities: There are sections in the specification that are missing spaces between words. There are also several spelling and grammatical errors throughout the claims.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21 (2) of such treaty in the English language.

3. Claims 1-4, 6, 7, 10-13, 15, 16, 19-21, 24, 25, 28-43, 45-48 are rejected under 35 U.S.C. 102(e) as being anticipated by Kobayashi (US 2004/0043334).

The applied reference has a common inventor with the instant application.

Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

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4. A photocatalyst layer having a photocatalyst and a resin (binder) is formed on a second substrate (base material). A wettability changeable layer (decomposition removal, property variable) is formed on a first substrate. The substrates are disposed so that the photocatalyst layer and the wettability changeable layers are contacted or in a reactive distance. Light is irradiated in a pattern to form areas having a high wettability (lyophilic) and a low wettability (liquid repellent). A conductive film forming composition is contacted with the wettability changeable layer and selectively adheres to the area having the high wettability. The adhered conductive film is solidified to form a conductive pattern [0012]-[0013]. The wettability pattern can be selectively adhered with various kinds of aqueous solutions and waster dispersions [0115]. The conductive film coating solution may be a conductive film forming coating solution or processing liquid containing metal compounds [0116]. The conductive film coating solution may be a dispersion prepared using metal compounds such as indium and tin dissolved in an acidic aqueous solution, corresponding to a metal colloid [0117]-[0122]. The metal solution may be coated using a dip coating method or spin coating method [0118]. The metal may be silver or gold [0128]. The wettability changeable layer comprises a compound which is decomposed by light irradiation under the presence of the photocatalyst such as an organopolysiloxane wherein the polysiloxane contains a fluoroalkyl group [0036]-[0039]. The photocatalyst may be TiO_2 [0091]. The photocatalyst layer may be applied using vacuum deposition [0094]. The gap between the photocatalyst layer and the wettability changeable layer may be 10 microns [0108]. See also [0096].

5. Claims 1-4, 6, 7 are rejected under 35 U.S.C. 102(e) as being anticipated by Watanabe (US 2003/023286).

6. Photosensitive layer 2 is formed on a substrate. UV rays are exposed through mask 3. In the latent image parts 2a the resin is changed to be polar from non-polar and made to be hydrophilic. The photosensitive layer is brought into contact with a metal colloid containing solution to absorb in the latent image parts. The polysilane is radiated with UV rays in the presence of oxygen to form Si-OH groups. The photosensitive composition comprises an organic solvent, oxidizing agent, a photoradical generating agent and a silicon compound. The network polysilane can be obtained by heating a halosilane mixture to produce Si atoms with 3 bonds. The metal compound may be gold or silver. The metal colloid may be coated by dipping the photosensitive layer on the substrate in the metal colloid containing solution. The metal colloid is heated to for adsorption and drying. [0015]-[0050], [0065], [0082], [0083] and examples.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

8. Claims 1-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kobayashi (JP 2000-249821, English translation from JPO) in view of Watanabe (2003/232286).

9. A photocatalyst-containing layer-sided substrate 3 comprises a substrate 1 (second) and a photocatalyst-containing layer 2. The photocatalyst may be TiO₂ [0016]. The photocatalyst containing layer may include organosiloxane having a fluoroalkyl group [0087]-[0090]. Pattern forming body 6 comprises a transparent (first) substrate 4 and characteristic varying layer 5. The photocatalyst-containing layer 2 is placed in contact with the characteristic varying layer 5 and exposed to form a pattern

10. See abstract. The characteristic varying layer is a wettability change layer wherein the wettability or contact angle changes [0018]. The property change layer may be used as a decomposition removal layer in which decomposition removal is carried out by operation of the photocatalyst [0023], [0102]. The pattern may be formed by a hardening process using UV, heat or e beam [0139]. The wettability change layer may be coated by coating the entire layer using and then removing the portions depending on wettability [0142]. Various functional components, such as metals, can be obtained

by using the pattern formed in the property changing area, dependent on the requirements for the specific device being manufactured [0133]-[0138]. Light filter and microlenses may be formed by applying ink which adheres to regions depending on wettability, followed by a hardening or stiffening process [0144]-[0145]. The functional pattern layer may be formed using a nozzle and a dip coating, spin coating or ink jet method [0140]. While JP 2000-249821 does not explicitly disclose that the functional pattern layer is a metal colloid, the reference does teach using the method for forming metal patterns in the manufacture of color filters. The teachings of Watanabe have been discussed above. The reference teaches adhering a metal colloid to a pattern of lyophilic areas in order to form metal patterns for use in color filters [0116]. It would have been obvious to one of ordinary skill in the art to use a colloid as the functional layer in order to form the metal patterns in order to manufacture a color filter in the method of 2000-249821 because Watanabe teaches adhering a metal colloid to a pattern of lyophilic areas in order to form metal patterns for use in color filters.

10. Claims 29-50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kobayashi (JP 2000-249821, English translation from JPO) in view of Watanabe (2003/232286) and Yamamoto (JP 2004-151330).

11. The teachings of Kobayashi and Watanabe have been discussed in paragraph 9 above. Kobayashi does not teach that the photocatalyst treatment layer and the characteristic varying layer do not contact each other. However, Yamamoto discloses placing a wettability varying layer onto a substrate, placing a photocatalyst containing layer onto a base body, placing the photocatalyst containing layer above the wettability

varying layer so that there is a space of 200 microns or less between the two, and exposing the substrates to light (See Abstract). It would have been obvious to one of ordinary skill in the art to leave a space between the two layers, as taught by Yamamoto, in the process of Kobayashi because Yamamoto teaches that this allows for an accurate pattern to be formed while preventing an excess amount of waste liquids.

12. Applicant cannot rely upon the foreign priority papers to overcome rejections with intervening references because a translation of said papers has not been made of record in accordance with 37 CFR 1.55. See MPEP § 201.15.

Double Patenting

13. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

14. Claims 1, 11, 20 and 29 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1 and 2 of copending Application No. 10/417,516. Although the conflicting claims are not identical, they are not patentably distinct from each other because both claim forming a pattern by using a photocatalyst containing substrate having a base material and

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photocatalyst containing layer and a wettability changeable layer, exposing to radiation to form a lyophilic and repellent region, contacting the wettability changeable layer with a metal coating solution to adhere to the wettability pattern and solidify to form a conductive pattern. While the claims of 10/417,516 recite contacting with a conductive film forming composition or a liquid containing a compound of metal and the claims of the present application recite contacting with a metal colloid solution, it would have been obvious to one of ordinary skill in the art that metal colloid solutions are conventional conductive film forming compositions or liquids containing a compound of metal that are known and used in the art.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Response to Arguments

15. The newly filed declaration has overcome the objections to the declaration that were presented in the last Office Action. Examiner has withdrawn the objections.

16. Applicant's amendments to the abstract have overcome the objections to the specification that were presented in the last Office Action. Examiner has withdrawn the objections.

17. An English translation of the foreign priority papers has not been filed.

Therefore, the foreign priority date cannot be relied upon to overcome rejections with intervening references, such as Kobayashi (US 2004/0043334) and Watanabe.

18. Applicant's arguments, filed 11/13/2007, with respect to the rejection(s) of claim(s) 1-28 have been fully considered but they are not persuasive.

Applicant argues that Kobayashi (JP 2000-249821) teaches the use of two substrates, while the present invention teaches the use of a single substrate. While this is the case, Kobayashi still teaches the formation of a photocatalyst layer on a substrate and a wettability changing layer placed on the photocatalyst layer followed by the same exposure and conductive pattern forming steps as recited in the claims.

19. Applicant's arguments, filed 11/13/2007, with respect to the rejection(s) of claim(s) 29-50 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, in view of the amendments made to the claims, a new ground(s) of rejection is made using a newly found prior art reference.

The reference, Yamamoto, has been added to teach that a space is left between the photocatalyst containing layer and the characteristic varying layer during exposure.

20. Applicant's arguments, filed 11/13/2007, with respect to the nonstatutory double patenting rejection(s) of claim(s) 1, 11, 20 and 29 have been fully considered but they are not persuasive.

Claims 1, 11, 20 are still being rejected under nonstatutory double patenting for the reasons discussed in paragraph 18 above. As to claim 29, although Kobayashi teaches contacting with a conductive film forming composition or a liquid containing a compound of metal rather than contacting with a metal colloid solution, it would have been obvious to one of ordinary skill in the art that metal colloid solutions are

conventional conductive film forming compositions or liquids containing a compound of metal that are known and used in the art.

Although the 10/417,516 application has technically been abandoned, it has been noticed that a petition to revive the application has been filed. The double patenting rejection is being presented in case the petition is granted.

Conclusion

21. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to BRITTANY RAYMOND whose telephone number is (571)272-6545. The examiner can normally be reached on Monday through Friday, 8:30 a.m. - 5:00 p.m. EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Huff can be reached on 571-272-1385. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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**/Mark F. Huff/
Supervisory Patent Examiner, Art Unit 1795**